



Tracy Fish Facility

Tracy Fish Test Facility

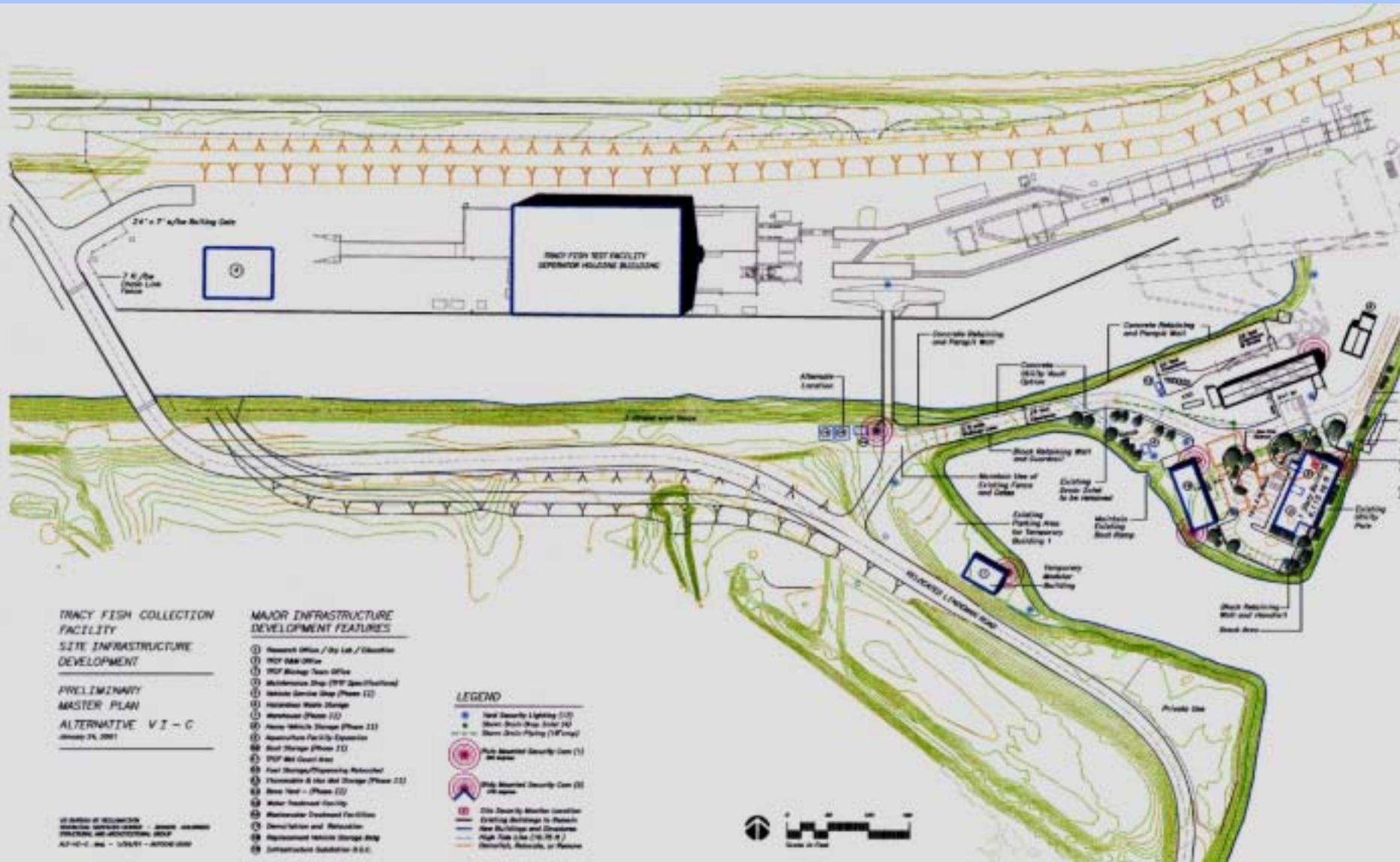
- Objective: To Determine Feasibility of New State-of-the-Art Fish Screen and Salvage Facility for SWP/CVP
 - Design by USBR and Technical Advisory Team with CCF, Tracy, and North Delta in mind
 - Coordinated Research and Evaluation Plan Under Development with Science Review
 - Research and Operations Experience will Feed into SWP/CVP Full Buildout
 - Cannot Disrupt Existing Operations



Existing Fish Facility

New Fish Test Facility Area

TTAT Alternative as of Mid-2002



Major Areas to be Evaluated at ANY Tracy Fish Test Facility

- Debris Management
- Predator Management
- Fish Lift Systems
- Fish Screening, Collecting, Sorting, and Holding Facilities
- Fish Trucking and Release Improvements
- Compatibility / Comparison with Existing Fish Collection Facilities

Tracy Fish Test Facility

Six Options Being Considered

- Differ by Scale
- Differ by Operational Flexibility
- Differ by Configuration
- Differ by Cost (\$49M to \$138M)

Proposed Tracy Fish Test Facility Options

| Option | Description | Flow through screens (cfs) | Depth at low Tide (ft) | Exposure Time @ Vs = 2 ft/sec (sec) | Bypass Flow to Sep/Hold Facility (cfs) | Fish Screen Bypass Options | Const Cost | Comments / Issues |
|--------|--|----------------------------|------------------------|-------------------------------------|--|----------------------------|------------|---|
| 1 | TFTF as designed by TTAT, Full Invert Depth, 240 foot screen | 500-824 | 16 | 120 | 84 | Pumps & Gravity | \$138M | <ul style="list-style-type: none"> * Most flexibility * Can test full gravity and pump bypass systems * Can test higher than NMFS 60-second exposure criteria * Gravity separator not working well in laboratory |
| 2 | Full invert depth, 240 foot screen | 596-1582 | 16 | 120 | 20 | Pumps | \$78M | <ul style="list-style-type: none"> * Can test 20 cfs bypass pumps and holding tank gravity system (w/o separator) * Can test higher than NMFS 60-second exposure criteria * Assumes bypass system are scalable to prototype |
| 3 | Full invert depth, 120 foot screen | 256-672 | 16 | 60 | 20 | Pumps | \$56M | <ul style="list-style-type: none"> * Can test 20 cfs bypass pumps and holding tank gravity system (w/o separator) * Can test NMFS exposure criteria * Assumes bypass system is scalable to prototype |
| 4 | Shallower invert depth, 240 foot screen | 180-750 | 5 | 120 | 20 | Pumps | \$63M | <ul style="list-style-type: none"> * Can test smaller bypass pumps and tank gravity system (w/o separator) * Can test higher than NMFS 60 exposure criteria * Assumes bypass system is scalable to prototype * Sampling of debris, sediment, and fish may vary from prototype |
| 5 | Shallower invert depth, 120 foot screen | 80-320 | 5 | 60 | 20 | Pumps | \$49M | <ul style="list-style-type: none"> * Can test smaller bypass pumps and tank gravity system (w/o separator) * Can Test NMFS Exposure Criteria * Bypass system may not be scalable to Prototype * Sampling of debris, sediment, and fish may vary from prototype |
| 6 | Do not construct TFTF | | | | | | | <ul style="list-style-type: none"> * Must rely on other testing programs to predict impacts * Potential for higher cost future facility |

Future Challenges

- New ESA Fish Listings
- Changing Debris
- Invasive Species (Zebra Mussel)
- Changing Operations
- Manpower/Safety Issues
- Funding
- Integration with other Delta Actions

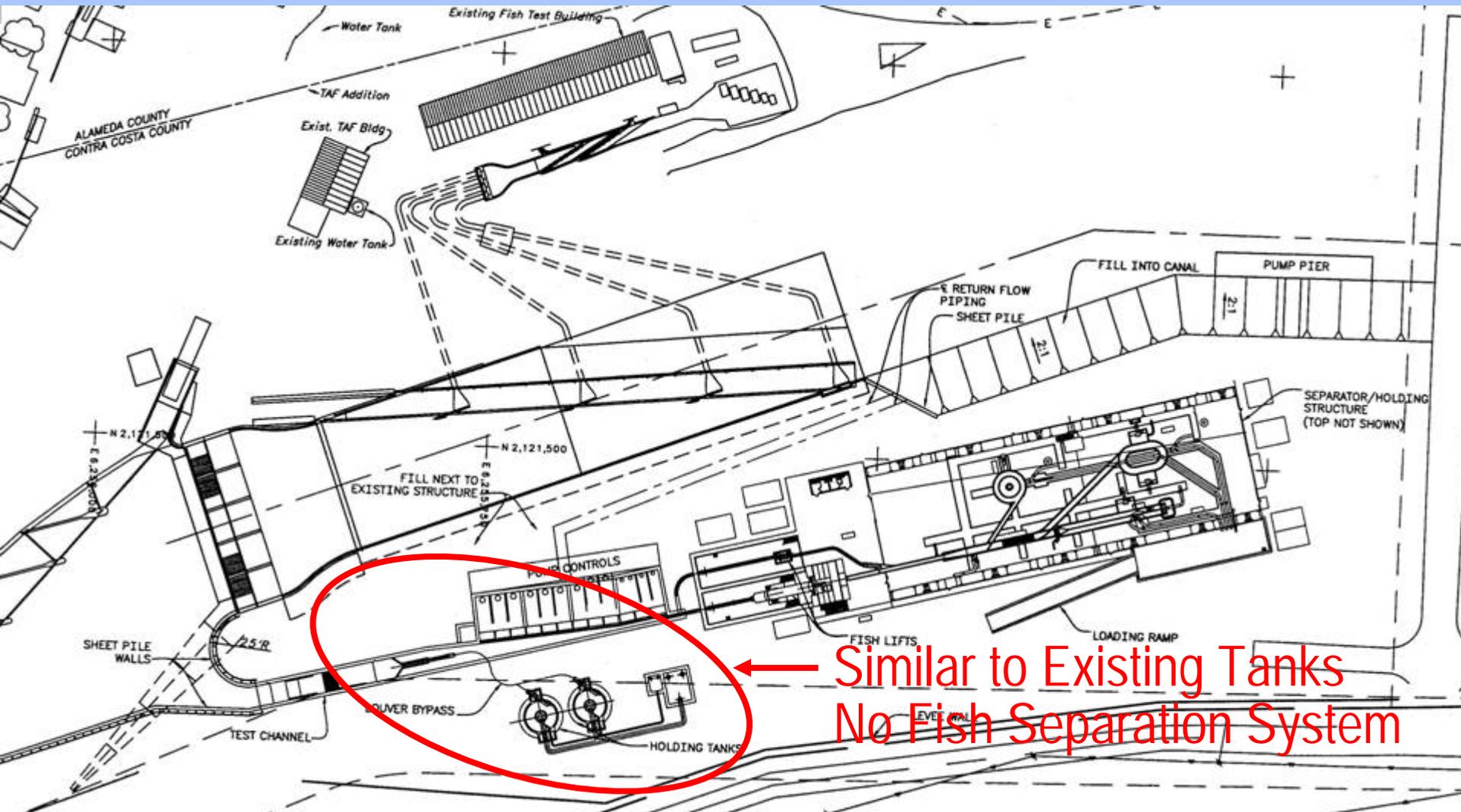
Suggested Near-term SDFF Forum Actions

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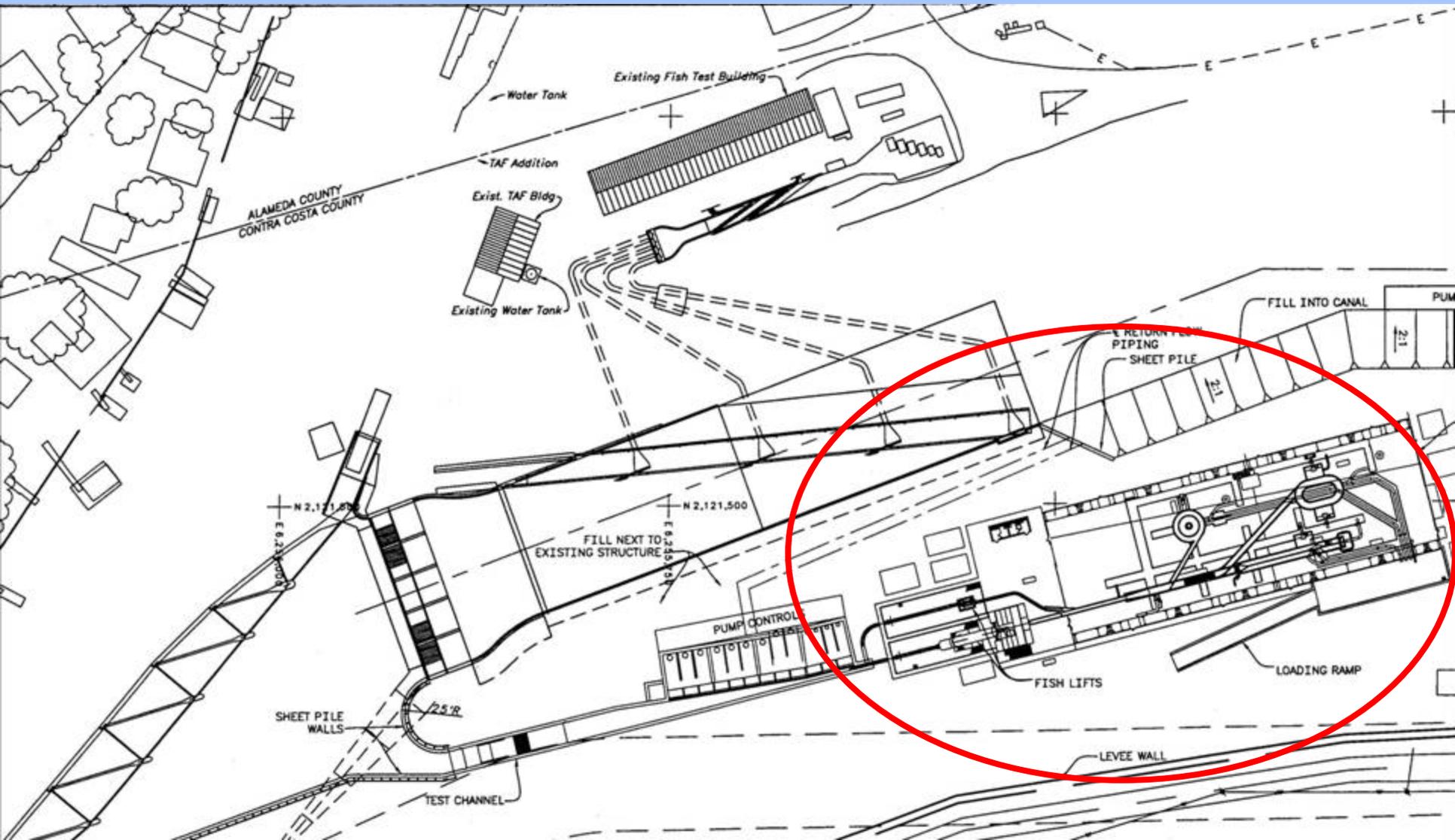
- Build or not build TFTF
-
- Include gravity bypass
 - Scale of facility
 - Testing criteria
 - Priority for fish protection

END

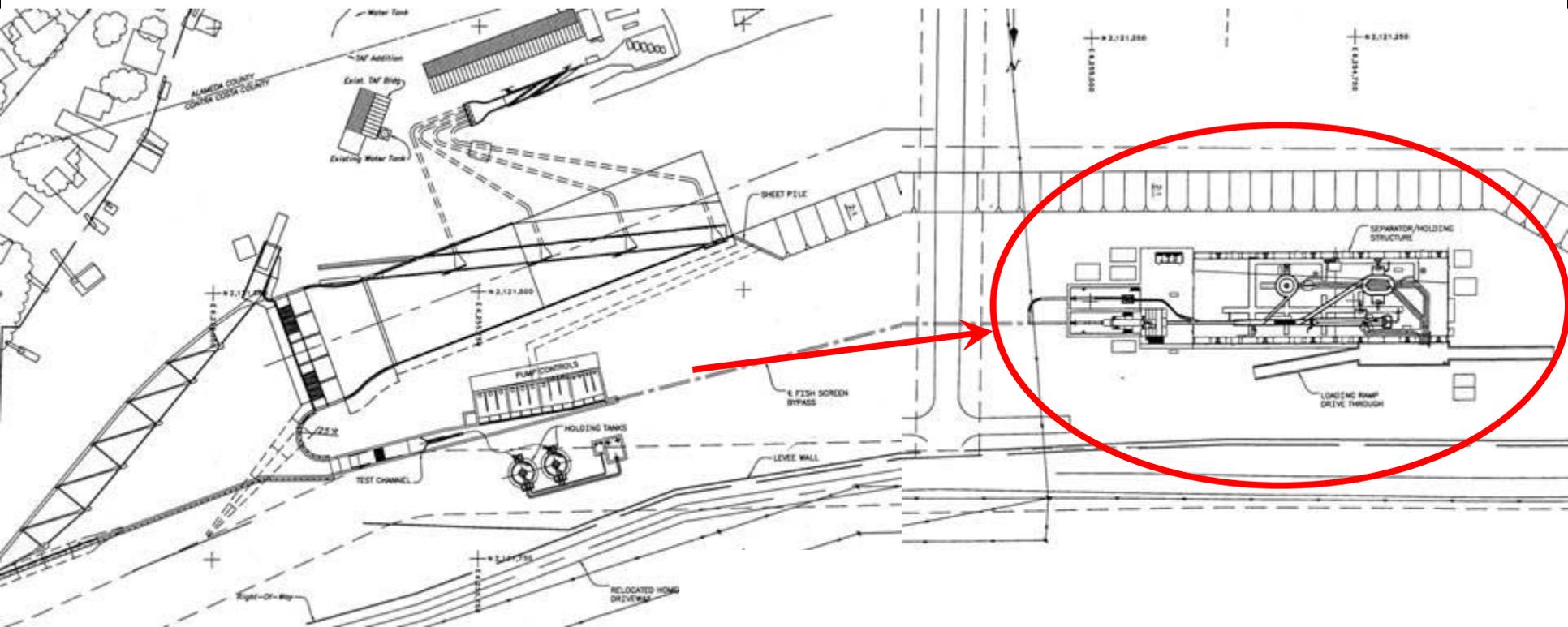
Facility Option Variables: Leaky Louver with Gravity Holding



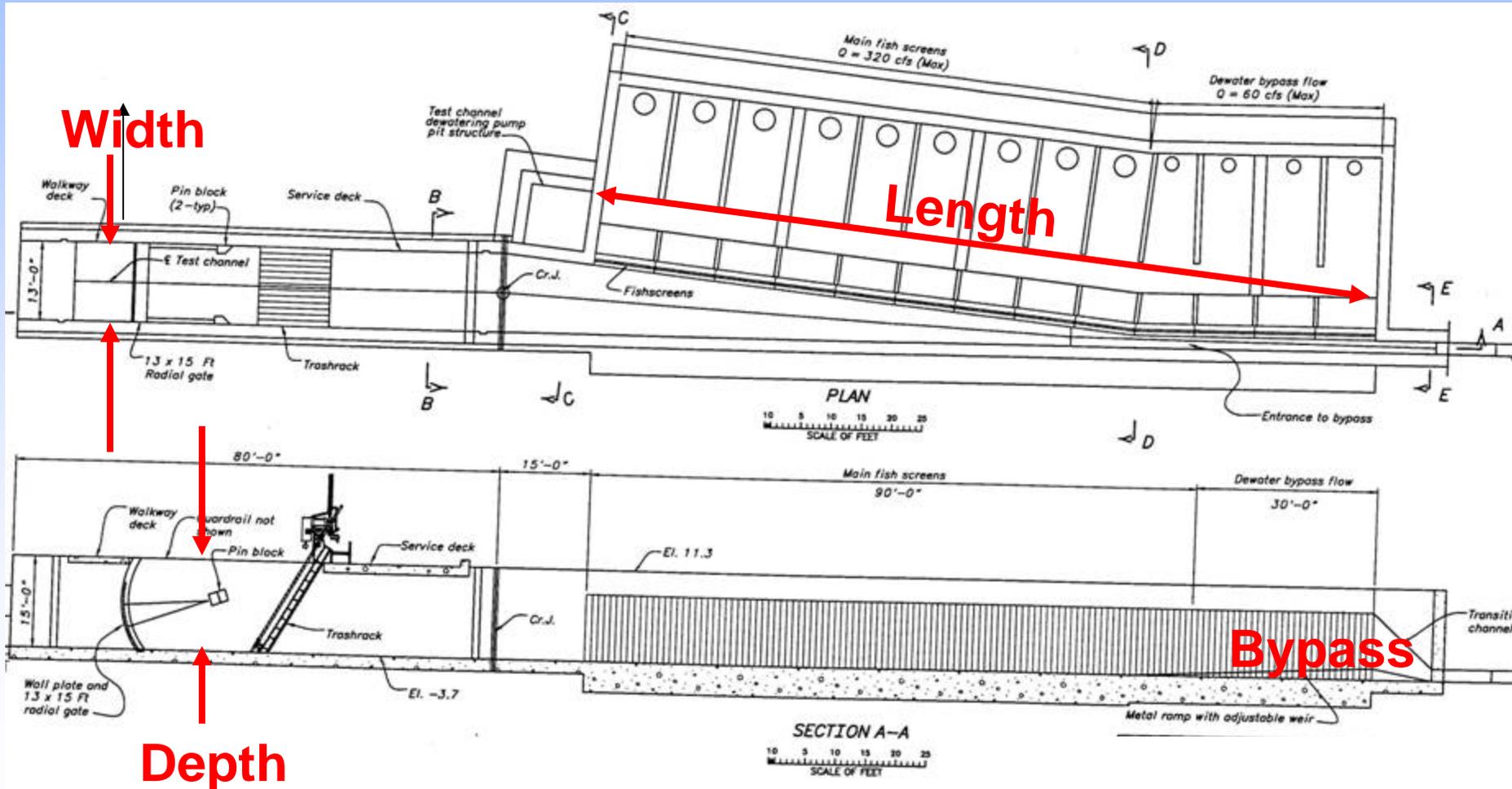
Variables (Con't): Holding Facility Location 1



Variables (Con't): Holding Facility Location 2



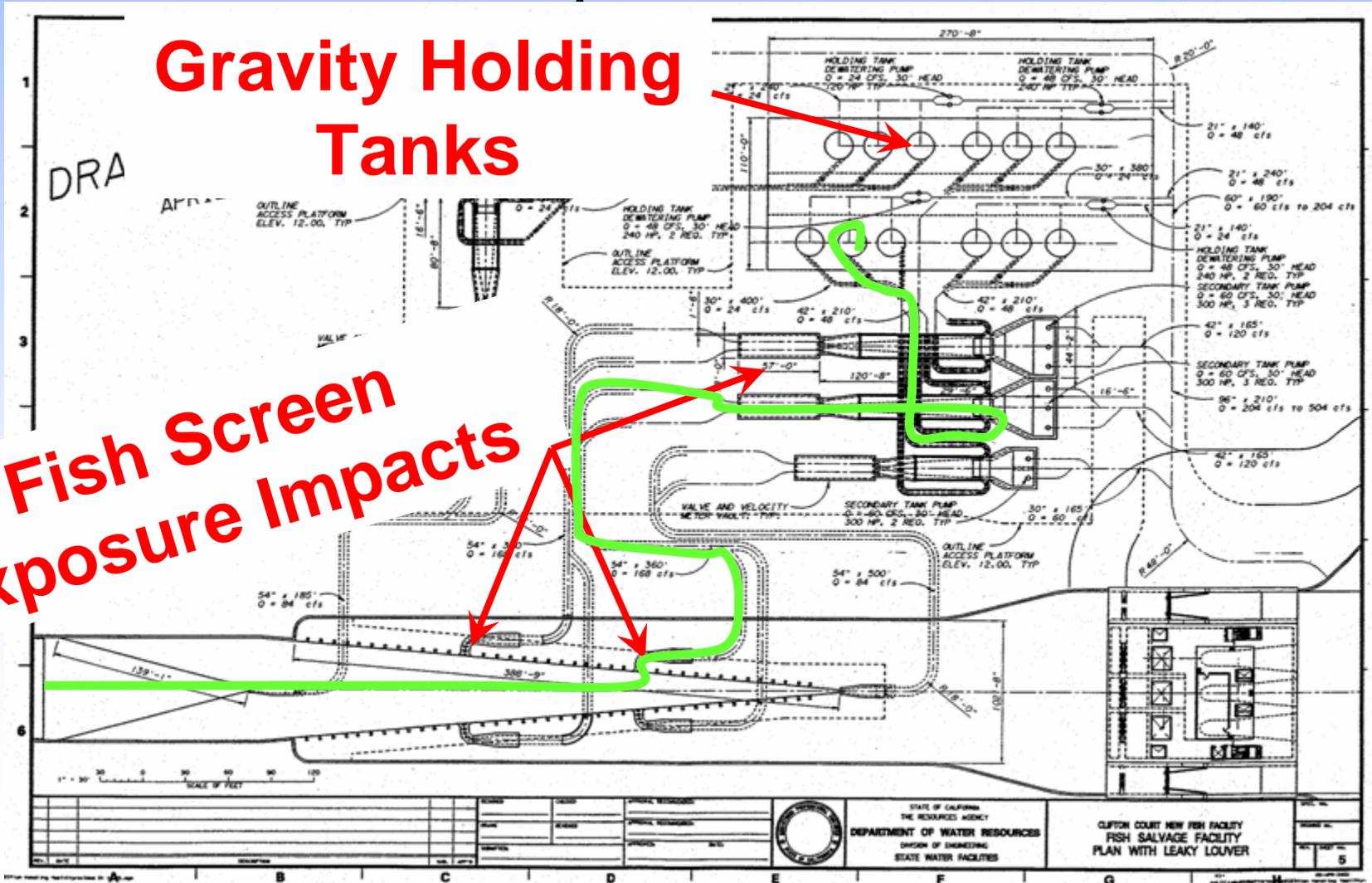
Variables (Con't): Width, Depth, Length, Bypass



Regulatory Requirements: New Fish Screen Built to "Criteria" may not Address Operations Issues

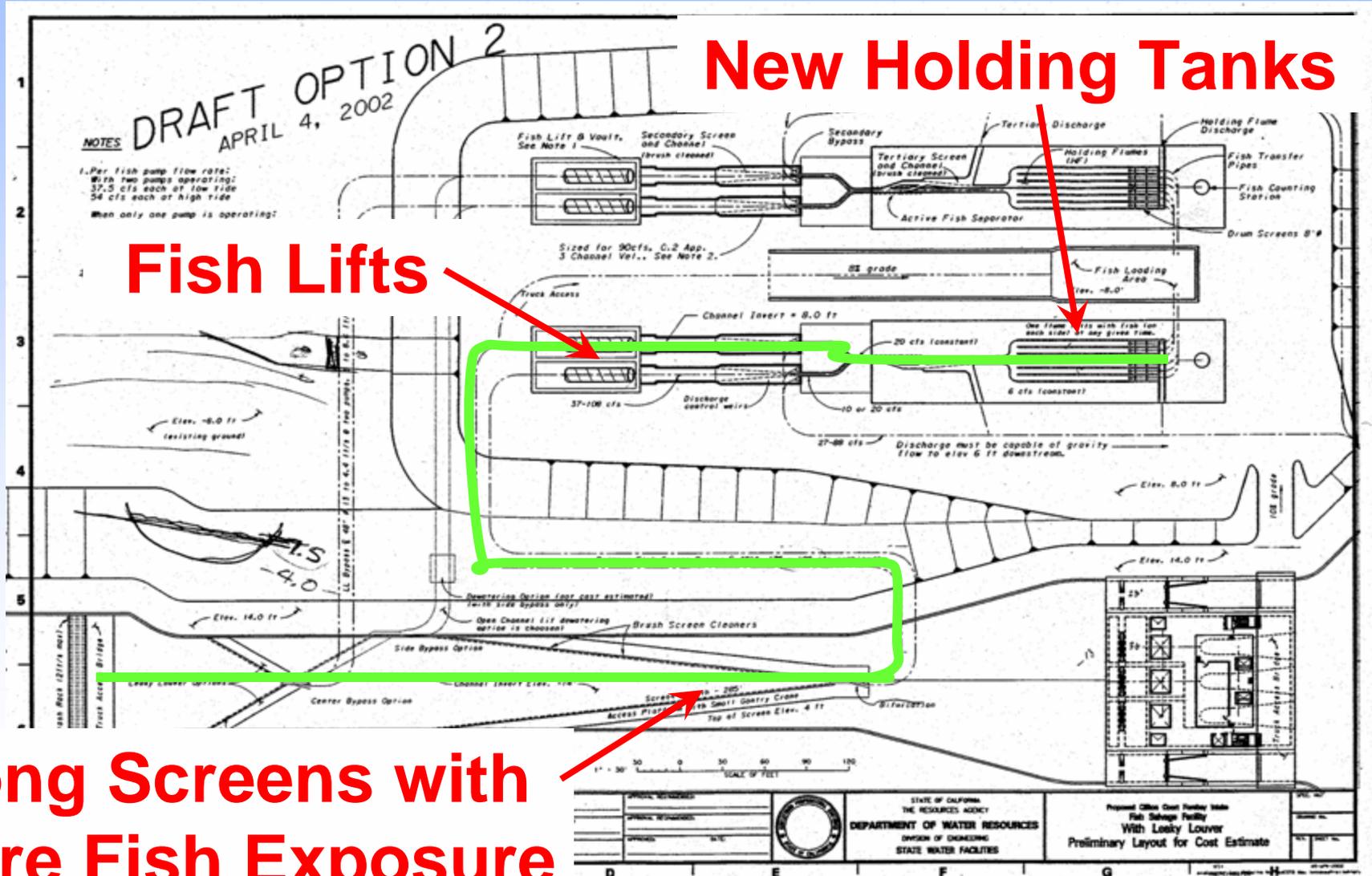
**Gravity Holding
Tanks**

**Fish Screen
Exposure Impacts**



Regulatory Requirements:

New Fish Screens Built with "Criteria Variance" will Need Verification Testing



Long Screens with more Fish Exposure